Appendix Table 3-2 Bureau of Labor Statistics projections of occupational employment: 2012–22

(Thousands)

		BLS			
Occupation	BLS National Employment Matrix 2012 estimate	projected 2022 employment	Job openings from growth and net replacements, 2012–22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Total, all occupations	145,355.8	160,983.7	50,557.3	10.8	34.8
All S&E	5,914	6,791	2,047	14.8	34.6
Computer and mathematical scientists, except computer programmers	3,445	4,096	1,177	18.9	34.2
Computer and information scientists, research	26.7	30.8	8.3	15.3	31.1
Computer and information analysts	595.7	750.9	248.8	26.1	41.8
Software and Web developers	1,159.4	1,410.6	403.9	21.7	34.8
Network architects and database and systems administrators	628.6	710.3	184.3	13.0	29.3
Computer support specialists	722.4	845.3	236.5	17.0	32.7
All other computer specialists	205.8	213.6	40.2	3.8	19.5
Mathematicians	3.5	4.3	1.7	22.7	48.6
Operations research analysts	73.2	92.7	36.0	26.7	49.2
Statisticians	27.6	34.9	16.1	26.7	58.3
Mathematical scientists, all other	1.9	2.2	0.7	13.3	36.8
Engineers	1,589.6	1,726.1	544.3	8.6	34.2
Aerospace engineers	83.0	89.1	25.4	7.3	30.6

Occupation	BLS National Employment Matrix 2012 estimate	BLS projected 2022 employment	Job openings from growth and net replacements, 2012–22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Agricultural engineers	2.6	2.7	0.8	4.8	30.8
Biomedical engineers	19.4	24.6	10.1	26.6	52.1
Chemical engineers	33.3	34.8	9.2	4.5	27.6
Civil engineers	272.9	326.6	120.1	19.7	44.0
Computer hardware engineers	83.3	89.4	24.1	7.4	28.9
Electrical and electronics engineers	306.1	318.7	79.4	4.1	25.9
Electrical engineers	166.1	174.0	44.1	4.7	26.6
Electronics engineers, except computer	140.0	144.8	35.3	3.4	25.2
Environmental engineers	53.2	61.4	21.1	15.3	39.7
Industrial engineers, including health and safety	247.4	260.1	85.1	5.1	34.4
Health and safety engineers, except mining safety engineers and inspectors	24.1	26.7	9.7	11.0	40.2
Industrial engineers	223.3	233.4	75.4	4.5	33.8
Marine engineers and naval architects	7.3	8.1	2.6	10.3	35.6
Materials engineers	23.2	23.4	7.5	0.9	32.3
Mechanical engineers	258.1	269.7	99.7	4.5	38.6
Mining and geological engineers, including mining safety engineers	7.9	8.9	3.0	12.0	38.0
Nuclear engineers	20.4	22.3	7.1	9.3	34.8
Petroleum engineers	38.5	48.4	19.6	25.5	50.9
All other engineers	133.0	138.1	29.5	3.8	22.2

Occupation	BLS National Employment Matrix 2012 estimate	BLS projected 2022 employment	Job openings from growth and net replacements, 2012-22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Life scientists	294.5	321.8	104.7	9.2	35.6
Agricultural and food scientists	38.5	42.0	16.4	9.3	42.6
Animal scientists	2.7	3.0	1.2	8.8	44.4
Food scientists and technologists	19.4	21.5	8.5	10.8	43.8
Soil and plant scientists	16.3	17.6	6.7	7.5	41.1
Biological scientists	103.7	111.3	37.4	7.3	36.1
Biochemists and biophysicists	29.2	34.6	13.7	18.6	46.9
Microbiologists	20.1	21.6	7.1	7.0	35.3
Zoologists and wildlife biologists	20.1	21.1	6.7	4.9	33.3
Biological scientists, all other	34.3	34.1	9.8	-0.6	28.6
Conservation scientists and foresters	34.2	35.0	10.8	2.5	31.6
Conservation scientists	22.1	22.3	6.6	0.5	29.9
Foresters	12.0	12.8	4.2	6.1	35.0
Medical scientists	108.3	122.5	37.1	13.1	34.3
Epidemiologists	5.1	5.7	1.6	10.2	31.4
Medical scientists, except epidemiologists	103.1	116.8	35.5	13.3	34.4
All other life scientists	9.9	10.9	3.1	10.2	31.3
Physical scientists	297.4	328.1	110.6	10.3	37.2
Astronomers and physicists	23.3	25.7	8.1	10.3	34.8
Astronomers	2.7	2.9	0.9	10.0	33.3

Occupation	BLS National Employment Matrix 2012 estimate	BLS projected 2022 employment	Job openings from growth and net replacements, 2012–22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Physicists	20.6	22.7	7.2	10.4	35.0
Atmospheric and space scientists	11.1	12.2	3.8	10.0	34.2
Chemists and materials scientists	96.2	101.6	30.4	5.6	31.6
Chemists	87.9	92.9	27.8	5.6	31.6
Materials scientists	8.3	8.8	2.6	5.2	31.3
Environmental scientists and geoscientists	135.5	155.5	59.9	14.7	44.2
Environmental scientists and specialists, including health	90.0	103.2	39.7	14.6	44.1
Geoscientists, except hydrologists and geographers	38.2	44.2	17.3	15.8	45.3
Hydrologists	7.4	8.1	2.9	10.4	39.2
All other physical scientists	31.2	33.1	8.3	5.9	26.6
Social and related scientists, except historians	287	319	110	11.1	38.3
Economists	16.9	19.2	7.4	13.9	43.8
Survey researchers	18.0	21.2	5.6	17.6	31.1
Psychologists	160.2	178.9	62.3	11.7	38.9
Clinical, counseling, and school psychologists	145.1	161.5	55.9	11.3	38.5
Industrial-organizational psychologists	1.6	2.5	1.3	53.4	81.3
Psychologists, all other	13.4	14.9	5.1	10.7	38.1
Sociologists	2.6	3.0	1.1	15.0	42.3

Occupation	BLS National Employment Matrix 2012 estimate	BLS projected 2022 employment	Job openings from growth and net replacements, 2012-22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Urban and regional planners	38.7	42.7	21.4	10.3	55.3
Miscellaneous social scientists and related workers	50.3	54.3	12.3	8.0	24.5
Anthropologists and archeologists	7.2	8.6	2.6	19.4	36.1
Geographers	1.7	2.2	0.8	29.0	47.1
Political scientists	6.6	8.0	2.5	21.3	37.9
Social scientists and related workers, all other	34.8	35.5	6.4	1.9	18.4
Selected other occupations					
S&E managers	894	1,034	321	15.7	35.9
Computer and information systems managers	332.7	383.6	97.1	15.3	29.2
Architectural and engineering managers	193.8	206.9	60.6	6.7	31.3
Medical and health services managers	315.5	388.8	149.9	23.2	47.5
Natural sciences managers	51.6	54.5	13.7	5.7	26.6
S&E technicians and technologists, except computer programmers	1,126	1,183	331	5.1	29.4
Agricultural and food science technicians	25.9	26.7	10.1	2.9	39.0
Biological technicians	80.2	88.3	32.1	10.0	40.0
Chemical technicians	63.6	69.5	21.6	9.4	34.0
Geological and petroleum technicians	15.8	18.2	8.1	15.1	51.3
Nuclear technicians	8.1	9.3	4.1	14.9	50.6

Occupation	BLS National Employment Matrix 2012 estimate	BLS projected 2022 employment	Job openings from growth and net replacements, 2012–22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Social science research assistants	29.6	34.0	16.1	15.0	54.4
Miscellaneous life, physical, and social science technicians	143.6	155.8	69.8	8.5	48.6
Drafters	199.8	202.0	32.1	1.1	16.1
Surveying and mapping technicians	54.0	61.3	17.0	13.5	31.5
Aerospace engineering and operations technicians	9.9	9.9	2.1	-0.4	21.2
Civil engineering technicians	73.1	73.6	15.6	0.6	21.3
Electrical and electronic engineering technicians	146.5	146.5	30.4	0.0	20.8
Electro-mechanical technicians	17.3	18.0	4.3	3.9	24.9
Environmental engineering technicians	19.0	22.5	7.4	18.4	38.9
Industrial engineering technicians	68.0	65.8	14.1	-3.2	20.7
Mechanical engineering technicians	47.5	49.7	12.1	4.7	25.5
Engineering technicians, all other	67.7	68.3	14.6	0.9	21.6
Mathematical technicians	1.9	2.1	0.7	12.6	36.8
Surveyors, cartographers, and photogrammetrists	54.5	61.3	18.3	12.4	33.6
Computer programmers	343.7	372.1	118.1	8.3	34.4
Health care practitioners and technical occupations	8,049.7	9,782.6	3,378.3	21.5	42.0

Occupation	BLS National Employment Matrix 2012 estimate	BLS projected 2022 employment	Job openings from growth and net replacements, 2012–22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Health diagnosing and treating practitioners	5,004.8	6,020.1	2,042.2	20.3	40.8
Chiropractors	44.4	50.9	15.2	14.6	34.2
Dentists	146.8	170.2	59.1	15.9	40.3
Dieticians and nutritionists	67.4	81.6	22.3	21.1	33.1
Optometrists	33.1	41.2	17.7	24.4	53.5
Pharmacists	286.4	327.8	109.8	14.5	38.3
Physicians and surgeons	691.4	814.7	296.4	17.8	42.9
Physician assistants	86.7	120.0	48.9	38.4	56.4
Registered nurses	2,711.5	3,238.4	1,052.6	19.4	38.8
Nurse practitioners	110.2	147.3	58.5	33.7	53.1
Therapists	644.5	816.4	287.2	26.7	44.6
Veterinarians	70.3	78.7	31.0	12.0	44.1
Health diagnosing and treating practitioners nec	112.1	132.9	43.5	18.6	38.8
Health technologists and technicians	2,892.7	3,590.2	1,274.6	24.1	44.1
Clinical laboratory technologists and technicians	325.8	396.5	156.0	21.7	47.9
Dental hygienists	192.8	256.9	113.5	33.3	58.9
Diagnostic-related technologists and technicians	360.6	456.2	146.4	26.5	40.6
Emergency medical technicians and paramedics	239.1	294.4	120.6	23.1	50.4



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Occupation	BLS National Employment Matrix 2012 estimate	BLS projected 2022 employment	Job openings from growth and net replacements, 2012-22	10-year growth in total employment (%)	10-year job openings as % of 2012 employment
Health practitioner support technicians	677.8	821.3	210.5	21.2	31.1
Licensed practical and licensed vocational nurses	738.4	921.3	363.1	24.8	49.2
Medical records and health information technicians	186.3	227.5	90.4	22.1	48.5
Opticians, dispensing	67.6	83.5	35.3	23.4	52.2
Miscellaneous health technologists and technicians	104.2	132.7	38.8	27.4	37.2
Other health care practitioners and technical occupations	152.2	172.2	61.5	13.2	40.4
Occupational health and safety specialists and technicians	75.5	81.1	26.1	7.4	34.6
Miscellaneous health care practitioners and technical workers	76.6	91.2	35.4	19.0	46.2
Lawyers	759.8	834.7	196.5	9.8	25.9
Postsecondary teachers	1,830.9	2,134.5	578.7	16.6	31.6

BLS = Bureau of Labor Statistics; nec = not elsewhere classified.

NOTES:

Estimates of current and projected employment for 2012–22 period are from BLS's National Employment Matrix. Data in the matrix are from the Occupational Employment Statistics (OES) Survey and the Current Population Survey (CPS). Together, these sources cover paid workers, self-employed workers, and unpaid family workers in all industries, agriculture, and private households. Because the numbers are derived from multiple sources, data can often differ from employment data provided by OES, CPS, or other employment surveys alone. BLS does not make projections for S&E occupations as a group and some of the S&E and S&E-related occupational categories as defined by the National Science Foundation (NSF); numbers in the table are based on the sum of BLS projections for occupations that the NSF includes in the respective categories. The estimates of 10-year job openings as percentage of 2012 employment are calculated by NSF based on BLS data. Podiatrists, audiologists, nurse anesthetists, and nurse midwives are included in the total for health diagnosing and treating practitioners nec category.

SOURCE:

BLS, Employment Projections program, 2012–22, special tabulations of 2012–22 Employment Projections.

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